

SECTION 15

BUILDERS' HARDWARE

15-01 SCOPE: The work covered by this section of the specifications consists in furnishing all labor, equipment, appliances and materials not furnished by the Government, and in performing all operations in connection with the installation of builders' hardware, complete, in strict accordance with this section of the specifications and the applicable drawings, and subject to the terms and conditions of the contract.

15-02 APPLICABLE SPECIFICATIONS: The following Federal Specifications, of the issues listed below but referred to thereafter by basic designation only, form a part of this specification.

FF-H-101b	Padlocks
FF-H-106a	Hardware, Builders; Locks and Lock-Trim
FF-H-111a	Hardware, Builders; Shelf and Miscellaneous
FF-H-116b	Hardware, Builders; Hinges, Non-Templates
FF-H-121b	Hardware, Builders; Door-Closers
FF-H-136	Partitions and Inclosures

15-03 GENERAL: All doors and other movable parts of the building shall be equipped with hardware as specified herein or as shown on the drawings. If the hardware for any particular location is not described herein, it shall be provided and shall be like that for similar locations as near as is practicable. If no similar locations are specified, such hardware shall be of plain, heavy pattern, suitable type and ample size for the service required. Unless otherwise specified, hardware shall conform to the requirements of Federal Specifications mentioned above. Where the exact types of hardware specified are not adaptable to the finished shape or size of members requiring the hardware, suitable types, having as nearly as practicable the same operations and quality as the types specified, shall be furnished. Where manufacturers' products are specified, the products of other American manufacturers, equal to the product specified, and approved by the Contracting Officer, may be used. All modifications in hardware, required by reason of construction characteristics, shall be such as to provide the specified operative or functional features. Hardware for application on metal shall be made to standard templates.

15-04 HARDWARE TYPES:

a. General: All hardware to be furnished under this section of the specifications shall be of approved American manufacture. Butt hinges for exterior doors opening out shall be furnished with fixed pin.

b. Butt Hinges:

(1) Butt hinges for outswinging exterior doors shall be type 2001<sup>1</sup>, unless otherwise specified.

(2) Butt hinges for interior doors and in-swinging exterior doors with closers shall be type 2001 $\frac{1}{2}$  unless otherwise specified.

(3) Butt hinges for interior doors and inswinging exterior doors without closers shall be type 2005 $\frac{1}{2}$ , unless otherwise specified.

(4) Doors 42 inches wide and wider shall have extra-heavy butt hinges of the required type, size and finish.

(5) Where wood or pressed steel frames are indicated, butt hinges shall be full-mortised type.

(6) Where the projection of the door trim is such as to prevent clearance with the butt hinges specified, butt hinges with leaves of sufficient width to clear the trim shall be provided.

(7) Butt Hinges Per Door:

<u>Height of Door (Inches)</u>	<u>Butt Required</u>
60 or less	2
Over 60 and not over 90	3
Over 90	4

(8) Butt Hinges Sizes:

<u>Door Thickness (Inches)</u>	<u>Door Width</u>	<u>Butt Size (Inches)</u>
7/8 to 1	Any	2 $\frac{1}{2}$
1-1/8	Any	3 x 2
1-3/8	Any	3 $\frac{1}{2}$ x 3 $\frac{1}{2}$
1-3/4	3 feet and less	4 $\frac{1}{2}$ x 4 $\frac{1}{2}$
1-3/4	Over 3 feet	5 x 4
2 $\frac{1}{4}$ & 2 $\frac{1}{2}$	Any	5 x 5

c. Door Closers shall be of the types as hereinafter specified.

d. Door silencers shall be type 1337a. Three silencers shall be provided for each pressed steel frame for single doors, and two silencers for each pressed steel frame for pairs of doors.

e. Door stop, type 1321E, shall be supplied where an item of hardware on an opened door might contact a wall or other part of the building construction. Where the wall type stop cannot be used to practical advantage, type 1329E shall be supplied.

f. Locks and Latches: Cylindrical case lock and latch sets shall be type 161 series and shall have beveled fronts. Lock cylinders shall have not less than five pins. Lock and latch cases shall be heavily galvanized. Lock and latch sets as manufactured by Schlage Lock Co., P. & F. Corbin, Lockwood Hardware Mfg. Co., Russell & Erwin, or any other approved American manufacturers will be acceptable.

g. Push Plates shall be type 460.

15-05 SAMPLE SCHEDULE AND SAMPLES: As soon as practicable after award of contract, and before a hardware schedule is prepared, or any hardware purchased and delivered to the project site, the Contractor shall submit to the Contracting Officer, for approval, a sample schedule in quintuplicate, listing each of the different items of builders' hardware required. The sample schedule shall be submitted in this form:

ITEM NO.:	SPECIFICATIONS REFERENCE,:	NAME OF ITEM:	MFR'S NAME & CATALOG
:	TYPE, OR CATALOG NO.	:	: NO. OF ITEM SUPPLIES

Opposite each listed item number, insert the specification reference, the name of the item and the manufacturer's name and catalog number of the item to be supplied. Where the listed item is not a Federal Specification type, and is not illustrated in the manufacturer's catalog, a cut and description, or shop drawings shall be submitted with the hardware schedule. In addition to the sample schedule, a sample of each different item of builders' hardware, properly tagged and marked for identification, shall be submitted to the Contracting Officer for approval. Following approval of the sample schedule and samples by the Contracting Officer, a permanent schedule of hardware, showing the quantities, types and locations of the various items of builders' hardware required for the project, shall be delivered, in duplicate, to the Contracting Officer for the record file. The permanent schedule shall contain only the catalog number of the items appearing on the approved sample schedule.

15-06 FINISH: Finish on hardware shall be dull bronze (US10), except in toilet room side. Finish on hardware in toilet room side shall be dull chromium plated (US26D).

15-07 KEYS AND KEYING: All locks shall have two keys with the lock number stamped upon them with the corresponding number stamped upon the face of the lock. Each lock shall be keyed differently from any other lock in the building, unless otherwise specified or directed by the Contracting Officer. Locks shall be keyed, master-keyed and grand master-keyed as directed by the Contracting Officer. Six (6) keys shall be provided for each master-key set and a total of six (6) grade master keys. Upon receipt of keying information, the Contractor shall submit for approval five full and complete keying schedule. Two copies will be returned for use of the Contractor. After all locks have been installed and upon completion of the work the keys shall, in the presence of the Contracting Officer, be shown to operate their respective locks and shall be tagged and delivered to him.

#### 15-08 APPLICATION OF HARDWARE:

a. Hinges: Hinges shall be installed in accordance with standard practice and as directed by the Contracting Officer. Suggested rules for locating butt hinges on a door are as follows:

(1) 5-inch distance from jamb rabbet to top edge of top butt hinge.

(2) 10-inch distance from finished floor line to bottom edge of bottom butt hinge.

(3) Center butt hinge to be evenly spaced between other two butt hinges.

(4)  $\frac{1}{4}$ -inch distance from face edge of door to edge of butt hinge mortise for doors up to  $2\frac{1}{4}$  inches in thickness.

b. Locks and Latch Strikes: Locks and latch strikes, where required, shall be installed on doors and door frames at the same height from the floor throughout the building. The center of door knobs shall be 43 inches above the finish floor.

c. Push plates, where required, shall be installed so that the bottom of the plate will be 40 inches above the finish floor.

d. Other Hardware not specifically covered by this paragraph shall be installed according to standard practice and as directed by the Contracting Officer.

15-09 MANUFACTURERS whose names are listed by abbreviation are as follows:

Corbin	P & F Corbin Division	New Britain, Conn.
Lockwood	Lockwood Hardware Mfg. Co.	Fitchburg, Mass.
Russwin	Russell & Erwin Division	New Britain, Conn.
K & V	Knap & Vogt Mfg. Co.	Grand Rapids, Mich.

15-10 HARDWARE SETS: The door targets shown on the drawings include hardware set numbers indicated in the lower half of the circle which designates the hardware set for that door. The following is the list of hardware sets: (Unless a manufacturer's product is specified, the type numbers are related to the Federal Specifications)

a. Two Bedroom Duplex:

1  
Butts as required  
Closer, Lockwood No. 3002  
Door Catch, Russwin No. 575  
Door stop, type 1329E

2  
Butts as required  
Lock set, type 161A-2  
Door stop, type 1321E

3  
Butts as required  
Lock set, type 161L-2  
Door stop, type 1321E

4  
Butts as required  
Latch set, type 161N-2  
Door stop type 1329E

5  
Butts as required  
Latch set, type 161N-2  
Door stop, type 1329E

6  
Floor hinge, type 2334  
2 Push plates, type 460

7

Track, bronze as detailed, length as required  
Sheaves, Corbin No. 753-3/4, 2 per door  
Flush pull, Corbin No. 0110, 1 per door  
Security bolt, bronze as detailed

b. Standard 4-Man BOQ

1  
(Principal Door)

Butts as required  
Lock set, Type 161A-2  
Door Stop, type 1329E

2  
Butts as required  
Lock set, type 161T-2  
Door stop, type 1329E

(Screen Door)

Butts as required  
Gloser, Lockwood No. 3002  
Door stop, type 1329E

3  
Butts as required  
Lock set, type 161N-2  
Door stop, type 1329E

4

Butts as required  
Lock set, type 161L-2  
Door stop, 1321E

15-11 MISCELLANEOUS HARDWARE:

a. Coat and Hat Hooks: Two dozen coat and hat hooks, conforming to Federal Specification FF-H-111, type 1172, shall be furnished for each building. One coat and hat hooks shall be installed on the inside of each bathroom door, and others in closets as directed.

b. Shower curtain rods, 1-inch round, chromium plated, shall be installed over each bathtub. Rod shall be fastened with chromium plated flanges screwed to wall at the height indicated or directed.

c. Sliding door between Kitchen and Utility Room in 2-Bedroom Duplexes shall be furnished with the following hardware:

Track, Corbin No. 990 $\frac{1}{2}$ , length as required  
Sheaves, Corbin No. 753-3/4, 2 per door  
Pull, Corbin, No. 2097, 2 per door (one each side)  
Guide, Bronze, as detailed, 2 per door

d. Sliding doors for closets shall be furnished with the following hardware:

Track, K & V No. No. 455X, length as required  
Sheaves, K & V No. 413, 2 per door  
Pull, Corbin, No. 2097, 1 per door  
Guide, Bronze, as detailed, 2 per door

e. Kitchen Cabinets:

(1) For 2-Bedroom Duplex:

Hinges, type 2017 $\frac{1}{2}$ , 2 $\frac{1}{2}$ " , 2 per door  
Catch, type 1071, 2 per door.  
Pull, type 1306, 1 per door, 1 per drawer less than  
20 inches & 2 per drawer over 20 inches

(2) For Standard 4-Man BOQ:

Hinges, cast bronze, type as detailed, 2 $\frac{1}{2}$ " , 2 per door  
Catch, type 1071, 2 per door  
Pull, type 1306, 1 per door, 1 per drawer less than  
20 inches & 2 per drawer over 20 inches